

Beyond the Horizon: A 2D Animation Approach to Reducing Mental Health Stigma Among Youth

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Abstract

Depression is a growing mental health concern among youth, yet stigma and limited access to relatable educational resources continue to hinder awareness and empathy. This study examines the use of 2D animation as a medium to promote mental health literacy and reduce stigma among individuals aged 13 to 25 through the development of *Beyond the Horizon*, a short animated film. A mixed-method approach was employed, including a literature review, a semi-structured interview with a student who had experienced depression, and a questionnaire involving 40 respondents. The animation was produced through the standard phases of pre-production, production, and post-production, incorporating visual metaphors, colour theory, and sound design to portray the emotional realities of depression. Findings showed that 86.5% of respondents considered 2D animation effective for addressing depression, 92.3% reported stronger emotional impact, and 90.4% indicated increased understanding. Overall, the study highlights 2D animation as an engaging and empathetic tool for youth mental health awareness.

1. Introduction

Depression is a critical global mental health concern that continues to affect individuals across all ages, genders, and backgrounds. Both adolescent substance use, and adolescent depression are major public health problems, and have the tendency to co-occur. Thousands of articles on adolescent substance use or depression have been published. It is labor intensive and time consuming to extract huge amounts of information from the cumulated collections. Topic modeling offers a computational tool to find relevant topics by capturing meaningful structure among collections of documents [1]. Despite increasing attention in public discourse, awareness of depression remains low among youth, especially in environments where mental health is stigmatized or poorly understood. The lack of accessible and relatable mental health education is one of the core barriers that prevent young people from seeking help. Conventional teaching materials demonstrate the significance of visual elements, design concepts, and motion effects for disseminating ideas and empowering individuals. Color, typography, and images can elicit emotions, encourage empathy, and strengthen audience connections. Storytelling and message delivery are enhanced by motion effects such as pacing, timing, and animation techniques [2].

As young people spend increasing time on platforms that prioritize multimedia engagement, it becomes necessary to adapt awareness strategies accordingly. One particularly powerful tool is 2D animation. Unlike static visuals or text-heavy resources, 2D animation allows for the symbolic portrayal of emotional and

psychological experiences. According to Ito-Jaeger [3] Through visual metaphors, color theory, sound design, and storytelling, 2D animation can depict depression in a way that words alone cannot. This project focuses on developing a 2D animated short film designed to raise awareness about depression among youth by presenting an honest and empathetic portrayal of the condition. Digital storytelling is a creative visual technique that has been used to capture people's lived experiences with mental health; it aims to educate viewers, reduce stigma, and promote supportive conversations by illustrating the internal struggles associated with conditions like depression [4].

The primary target audience for this project consists of youth aged 13 to 25, a group frequently left out of mainstream mental health discourse despite being highly engaged with digital content. This animation is intended to function both as a tool for education and a catalyst for empathy. While research on how both animated characters and their motion influence viewers' visual attention remains limited, animations that portray the nuances of depression with visual depth and emotional sensitivity hold the potential to not only capture attention but also spark supportive conversations among peers, families, and educational institutions [5]. The objectives of this research are:

- i. To design and produce a 2D animated short film that authentically portrays the emotional experience of depression using visual metaphors and narrative storytelling.
- ii. To evaluate the effectiveness of the animated film in increasing awareness, reducing stigma, and promoting empathy among young audiences.

2. Methodology

This project combines both research and creative techniques to develop an animation centered around the theme of depression, with a focus on the Malaysian context. To ensure a respectful and accurate representation, research was conducted through articles, personal stories, and videos, including insights from local mental health platforms such as Befrienders KL and Relate Malaysia. These sources helped shape the emotional tone, story direction, and character development. Beyond the Horizon animation followed the traditional three-phase pipeline consisting of pre-production, production, and post-production processes, a standard workflow in animation production [6], [7].

2.1 Pre-Production

Pre-production is a critical phase that lays the foundation for the entire animation process. It involves conceptual planning, script development, character and background design, and storyboarding. These elements ensure visual consistency and emotional alignment with the narrative objectives. Effective pre-production reduces production delays and enhances the quality of storytelling [6].

2.1.1 Idea

The idea came from coming back and forth between the group to settle down a concept that has meaning in life. The idea came about when thinking of difficulties in life, having doing art in university so the idea relates to the people around us resonating with people around the world that have the same difficulties and problems to overcome and share with someone that can relate to make it feel comfortable and relatable for the right audience in the same situation.

2.1.2 Script Writing

The script in Fig. 1 is a rough draft on dialogue and the whole world building that the animation has to offer. During this stage, this project worked on characteristics and situations that people have been in during the feeling of depression and the challenges along the way to pursue their passion. The script also gives an idea of the character's background from how and where they grew up to make it more realistic and relatable. It also details characters' emotions and thoughts to flesh out the inner thoughts so to have an idea on how they are visually expressed.

Scene 3: Meeting
INT/Afternoon/School Hallway
MS
 When I was walking back home from the classroom, I bumped into someone carrying an art canvas.

Alex:
 "Ah Grace, sorry..."

Grace:
 "It's okay."

I was going to go straight back home but she stopped me.

Grace:
 "Hey wait! Come help me carry this."

She shocked me, as I look back at her. It was a girl from my class, her name was "Grace". She is average height person for a girl, has long silky hair. From what I know from she has quite a confrontational attitude to say the least but its not bad since she always helps people with it.

Alex:
 "Why? I want to go back home."

Grace:
 "You bumped into me, the least you could do, is help me with this big canvas."

Alex:
 "Fine."

So, I took the canvas and walked to the art room with her.

Scene 4:
INT/Evening/Art Room
WS

Fig. 1 Script Animation

2.1.3 Storyboard

Fig. 2 contains the storyboard for the animation. This is to layout on how scenes is supposed to draw out during the cut and how the whole workflow on the animation. This is to make the story into a clear picture when reading the script and to see how it would unfold. The storyboard also offers on how the length and duration of each shot will take during each scene. It also details the characters' position and camera angle to give an easy time for production.

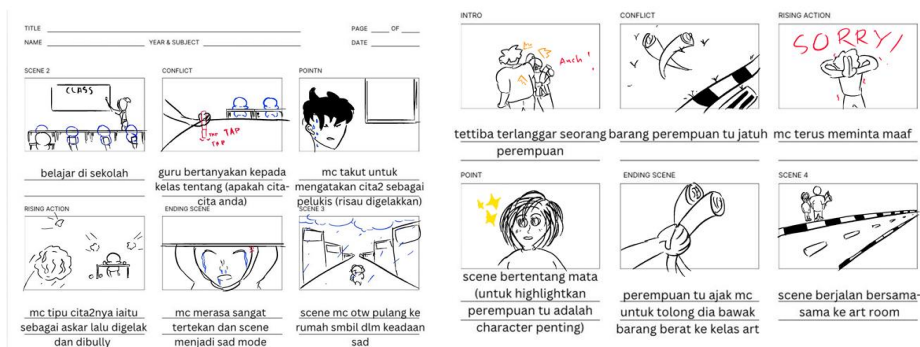


Fig. 2 Several Storyboard Animation

2.1.4 Character Design

Character design in Fig. 3 is a process to undertake when doing the pre-production. It contains on how characters will look and the lifestyle that is perceived. The characters' art style is more likely to preserve the 2D animation and give the characters more eye-catching. For the main characters are based on secondary school, so the clothes are simpler and neat. Clothes are also based on the personality, giving a lot of space for their development. As an example, the girl in pink and grey, the clothes a pink T-shirt for her feminine side and the grey full-wear apron style to make it seem like the girl is from the art club.

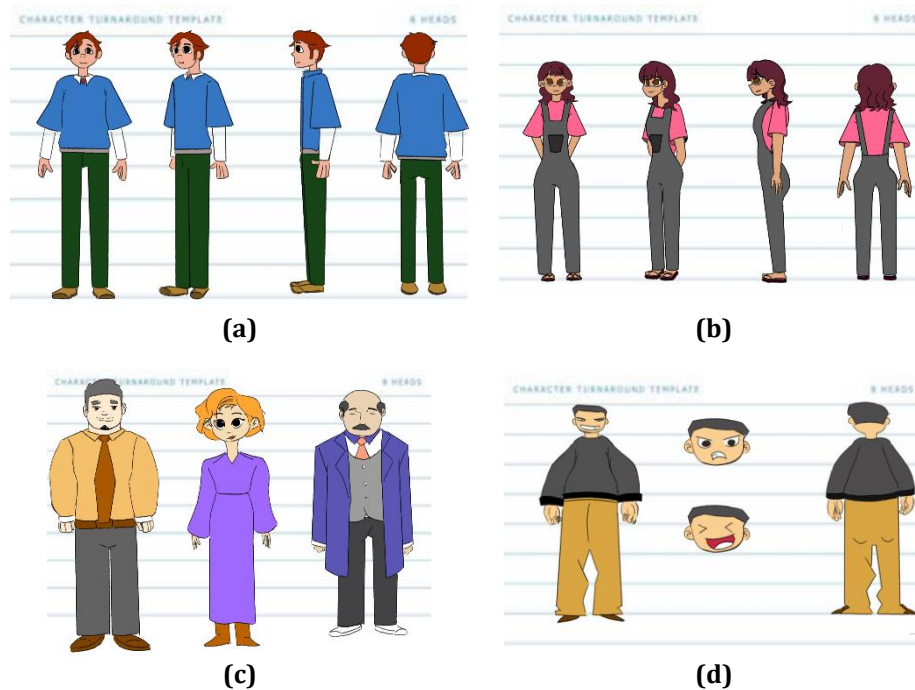


Fig. 3 Character design (a) Concept art main character; (b) Concept art female lead; (c) Concept art dad, mom, teacher; (d) Concept art bully

2.1.5 Background Design

For the background concept, this project decided to use videography and photography. The purpose is to make it seem realistic, so it makes the story have more impact when being portrayed on screen for the viewers to really make the concept of depression more in depth as Fig. 4.



Fig. 4 Several Concept background blending with 2D animation

2.1.6 Audio Development

The audio in animation diverts into three (3) main components (i) Voice Acting; (ii) Sound Effects (SFX) and (iii) Background Music (BGM). Every component is extremely important and often misplaced in animation because it enhances the animation to make scene immersive for the viewers. Voice acting is making the dialogue from the script into reality, for the voices it must be suitable for the character's personality. Sound effect (SFX) is to make sounds based on what is happening in the animation. Background music (BGM) elevates the whole animation to another level by providing music that matches the vibe and atmosphere when watching the animation. Fig. 5 shows audio development in Audacity.

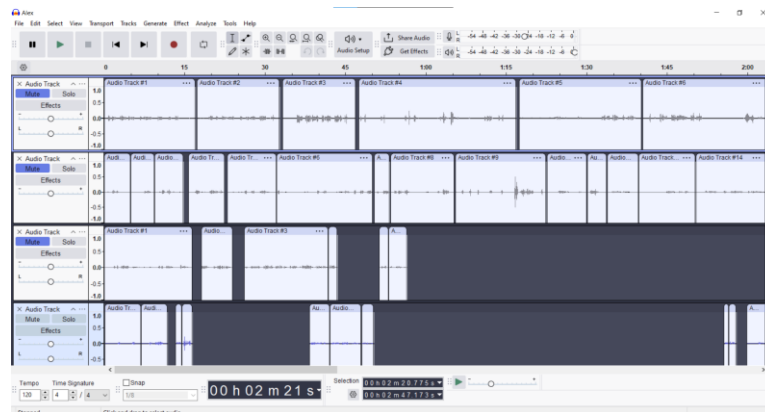


Fig. 5 Audio development in Audacity

2.2 Production

The production phase involved animating scenes using Clip Studio Paint, beginning with rough sketches based on the storyboard. This stage emphasized symbolic visuals and timing to reflect emotional depth, especially in portraying depression [6], [8]. This stage consisted of multiple sub-processes as outlined below:

2.2.1 Layout and Composition

Using the storyboard as a visual guide, each scene layout was imported and adapted to fit screen dimensions and timing. Camera angles and staging were also finalized at this stage to ensure visual flow.

2.2.2 Keyframing

Major poses (keyframes) were drawn for each character to define essential actions and expressions, particularly those symbolizing emotional cues such as fatigue, isolation, and anxiety. These keyframes were timed according to the audio and emotional pacing of the scene.

2.2.3 Animating

For this animation, this project uses Clip Studio Paint (CSP) as the main software on animating. The project uses the storyboard as reference and layout on the screen and then touch with sketches from the storyboard. After that, key-framing the important part and making in-betweens after. Lastly, clean up the animation to make the lines smooth and color the animation in as can see in Fig. 6.

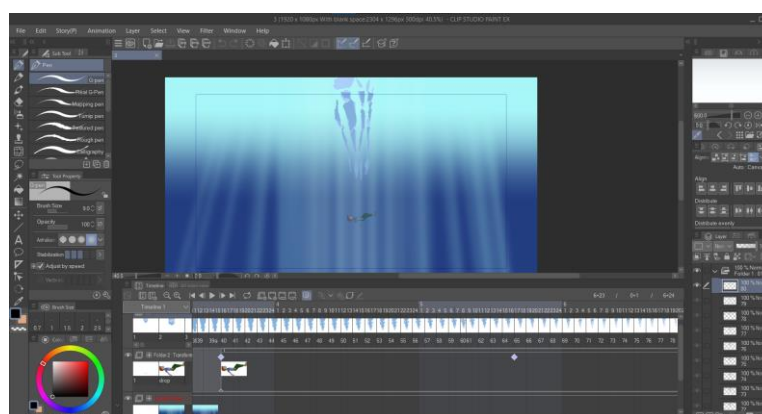


Fig. 6 Animating in Clip Studio Paint

2.3 Post-Production

The post-production phase focused on editing the animation by combining all scenes, sound effects, voice acting, and background music into a cohesive sequence. Proper audio placement and scene composition were applied to enhance emotional impact and ensure narrative continuity. This step was crucial in reinforcing the mood and atmosphere of the animation [9].

2.3.1 Editing

The last part of the animation is the editing part (Fig. 7), this part to make the whole animation come into one to make every scene stay where it should and not jump all over the place. In addition to that, they put all the sound effects, voice acting and background music in proper spots to make the animation not have any weird sounds in other places. Also, it can compose which is more towards the whole vibe and atmosphere of the scene and make it more eye-catching.

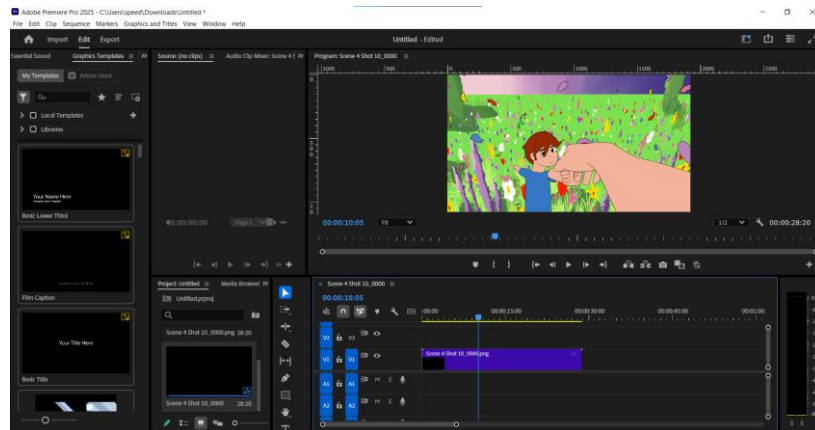


Fig. 7 Editing in Premiere Pro

3. Results and Discussion

To evaluate the animation's effectiveness in promoting awareness of depression among youth, a mixed-method approach was employed involving questionnaires and a semi-structured interview. The questionnaire was distributed to 40 respondents aged between 13 and 25, a demographic highly engaged with digital content and particularly susceptible to mental health challenges. The goal was to assess their perceptions regarding animation style, thematic preferences, and emotional resonance related to depression. The results of these evaluations are compiled in Appendix A.

Table 1 shows that 71.3% of respondents expressed interest in 2D animation, while 82.8% agreed that a gloomy theme related to depression made the animation more engaging. This aligns with recent findings suggesting that visual and emotional congruency in animation can foster deeper viewer empathy and awareness [2].

Table 2 shows that most respondents preferred 2D animation combined with videography (30 respondents, 34.5%) and Japanese cartoon (anime) style (28 respondents, 32.2%), while others chose basic 2D style (14 respondents, 16.1%) and 2D with stop motion (15 respondents, 17.2%). These preferences suggest that hybrid visual storytelling is perceived as more immersive and relatable, especially when dealing with sensitive issues such as mental health [9]. Based on Table 3, the questions are regarding the effectiveness of 2D animation in conveying messages about depression.

Based on the data presented in Table 3, most participants recognize the effectiveness of 2D animation in conveying messages about depression. Specifically, 86.5% believe that 2D animation is a suitable medium for addressing the topic, while 13.5% disagree. Additionally, 92.3% of respondents agree that 2D animation creates a stronger emotional impact, both for individuals experiencing depression and for the public, with only 7.7% expressing disagreement. The survey also explored the role of animation in raising awareness and generating interest in the subject of depression. 90.4% of participants reported that animation helped them better understand and care more about the issue, whereas 9.6% did not share this view. Furthermore, 86.5% indicated that the animation motivated them to explore the topic of depression more deeply, while 13.5% stated it had little to no influence on their interest. These findings reinforce the potential of visual storytelling not only to inform but also to elicit empathy and personal reflection, particularly when aligned with youth preferences and lived experiences [10].

A semi-structured interview was conducted with a student who shared his personal experience with depression. His testimony provided emotionally powerful insights that served as the foundation for the narrative and visual metaphors in the animation. The student described depression as feeling like "walking through water in heavy clothes," a metaphor that deeply inspired the animated sequences showing restricted movement and physical exhaustion. He also spoke about "screaming silently in a crowded room," which was translated visually through ambient noise distortion and character isolation in public spaces. These metaphors are consistent with prior findings on the value of co-created visual narratives in enhancing mental health literacy [10]. His emphasis on the importance of showing both the struggle and the possibility of recovery led to the inclusion of hopeful imagery in the final scenes. The university student experience helped ensure that the

animation remained authentic, respectful, and emotionally grounded [5]. The main points from the university student's sharing are summarized in Table 4 to provide a clearer view of the key themes discussed during the interview. The university student's real-life experience helped make the animation feel honest and meaningful.

Table 4 presents a summary of the questions and responses gathered from the semi-structured interview with the student. The students' answers provide meaningful insight into the emotional and psychological experience of living with depression. Through metaphors, personal reflections, and thoughtful suggestions, the university student's responses reveal how depression feels from the inside and what is important when representing it through visual media. The shared metaphors such as feeling trapped or walking through water in heavy clothes became essential in shaping the visual direction of the animation. Additionally, the student's emphasis on honesty, empathy, and the need to balance struggle with hope helped ensure that the final product remained sensitive and relatable to real experiences.

4. Conclusion

In conclusion, this project demonstrates the effectiveness of 2D animation in delivering meaningful messages about depression to young audiences. Through authentic storytelling and the use of visual metaphors, the animation successfully translates complex emotional experiences into an accessible and engaging format. The combination of observation, interview, and survey data helped ensure that the animation remained respectful, relatable, and emotionally grounded. Feedback from participants showed a strong preference for realistic portrayals and hopeful tones, which greatly influenced the design and narrative structure. Overall, the project highlights the potential of 2D animation as a powerful tool for mental health awareness. It not only encourages understanding but also creates space for empathy and open conversations about depression, particularly among young people who are often overlooked in mental health discourse.

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Conflict of Interest

Authors declare that there is no conflict of interest regarding the publication of the paper.

Author Contribution

The authors confirm contribution to the paper as follows: **study conception and design:** Muhammad Faris Zaqwan, Muhammad Faris Zaqwan, Ryan Fong; **data collection:** Ryan Fong, Muhammad Faris Zaqwan; **analysis and interpretation of results:** Muhammad Faris Zaqwan, Muhammad Fazrulhelmi Ahmad; **draft manuscript preparation:** Ryan Fong, Muhammad Fazrulhelmi. All authors reviewed the results and approved the final version of the manuscript.

Appendix A

Table 1 Animating design theme

No	Item	Yes	No
1	Interested in 2D Animation	71.3%	28.7%
2	Theme of 2D Animation	82.8%	17.2%

Table 2 Type of 2D animation

No.	Item	Percentage (%)
1.	2D Animation	16.1
2.	Japanese Cartoon (Anime)	32.3
3.	2D Animation with Videography	34.5
4.	2D with Stop Motion	17.2

Table 3 Effectiveness of 2D animation

No.	Item	Yes	No
1.	2D Animation involve Depression	86.5%	13.5%
2.	Impact of Depression in 2D Animation	92.3%	7.7%
3.	Information on Depression in Animation	90.4%	9.6%
4.	Research of Depression Animation	86.5%	13.5%

Table 4 Interview question and answer

No.	Question	Answer
1.	What made you want to join this interview and share your story?	<i>I wanted to speak up because I know how lonely depression can feel. If my story helps others feel less alone, it's worth it. I also liked the idea of turning my feelings into animation to help people understand.</i>
2.	How did depression feel for you?	<i>It felt like being stuck in a fog. Everything seemed dull, and I didn't enjoy things anymore. I felt alone even in crowds, like I was silently screaming inside.</i>
3.	Are there any images or metaphors that describe your experience?	<i>Yes, like being in a room with no way out or walking through water in heavy clothes. Sometimes I looked in the mirror and didn't recognize myself.</i>
4.	What do you want people to learn from an animation about your story?	<i>That depression is more than sadness, it's numbness, isolation, and struggle. But it's also important to show hope and that healing is possible.</i>
5.	What's most important when showing mental health in visual stories?	<i>Be honest and empathetic. Show the pain but also show strength and recovery. A real, balanced story can really connect with people.</i>

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